Emergency Medical Services Guidance Note #8

Issue: Infection Prevention and Control Practices

PREAMBLE

Paramedics, as front line health care providers, often work in relatively uncontrolled environments and may be exposed to infectious, communicable diseases. An effective Infection Prevention and Control Program is necessary to protect the health and safety of Emergency Medical Services (EMS) workers. When properly developed and implemented, such programs will also serve to protect not only paramedics, but also patients and the public.

BACKGROUND

A number of “Best Practice” guideline documents have been developed by the Public Health Agency Canada (PHAC) and Public Health Ontario (PHO). These documents provide excellent reference material that can be utilized by EMS employers to facilitate the development of a robust Infection Prevention and Control (IPAC) program.

HEALTH AND SAFETY PRECAUTIONS AND CONTROL MEASURES

Risk Assessment

The knowledge of three factors is necessary to conduct a risk assessment: potential consequence of the hazard, likelihood of exposure to the hazard, and the number of people regularly exposed to the hazard.

To assess the risk of infectious diseases, it is important to have the knowledge of:

- signs and symptoms of the disease
- significance of the infectious agent
- the epidemiology involved such as reservoir, mode of transmission, incubation periods, infectious periods, and transmission factors.

The Exposure of Emergency Service Workers to Infectious Disease Protocol, 2008, published by the Ministry of Health and Long Term Care, requires each EMS provider to have a Designated Officer. A Designated Officer is a person identified in an emergency service that is responsible for receiving and assessing reports regarding the possible exposure of an emergency service worker to an infectious disease of public health importance and then contacting the medical officer of health or designate.
The Designated Officer is someone who has received training regarding:

- the assessment of communicable diseases
- the required and recommended immunizations to prevent spread of vaccine preventable diseases (Note: Clause 6(1)(h) of O. Reg. 257/00 under the Ambulance Act, refers to the mandatory immunization requirements for paramedics as listed in Table 1 of the “Ambulance Service Communicable Disease Standards”, published by the Ministry of Health and Long Term Care)
- appropriate use of personal protective equipment (PPE)
- the proper methods and procedures for effective cleaning and disinfection of reusable equipment and the patient environment.

The Designated Officer is also responsible to:

- investigate all exposure incidents
- assess the risks to the worker
- arrange medical follow–up if required
- liaise with the local Public Health Unit as necessary.

Recommendations:

EMS employers should:

1) Assign at least one Designated Officer for Communicable Disease.
2) Have written procedures in place to recognize situations with the potential for occupational exposure or transmission of infectious diseases based on evidence based guidelines.
3) Ensure that policies are reviewed at least annually.
4) Ensure that supervisors and workers are trained to assess and recognize communicable diseases, to know the appropriate PPE to use, and PPE donning and doffing techniques.
5) Ensure that workers are immunized for vaccine preventable diseases according to current recognized guidelines (as noted above) and to maintain the confidential records of current immunization status and/or medical proof of contraindication or immunity through appropriate serologic testing.
6) Obtain a health assessment of new workers to determine the history of previous or present infectious diseases.
7) Consider tuberculosis testing upon hire of new workers to establish a base line in accordance with recognized guidelines and potential risk factors in the community.
8) Ensure occupational health and safety requirements are met.
9) Review all infectious disease exposure records to determine if revisions to current control measures such as equipment, policy, procedure are indicated.
10) Review and remain current with infectious disease literature and best practice guidelines.
11) Establish and maintain communication with appropriate departments and agencies.
12) Develop and implement a program to monitor rates of exposure within their EMS service and any increase of illness that may require a cluster/outbreak management plan.

Risk Control Measures

Control measures (listed in order of effectiveness) are used to prevent worker exposure to infectious disease, they include:

**Engineering Controls:**
Physical or mechanical controls put in place to reduce the risk of exposure by reducing the hazard at the source. The employer, in collaboration with the JHSC or Health and Safety Representative should ensure:

- That all equipment, preferably proven to reduce worker exposure and improve safety, is reviewed regularly and is effective for implementation.
- The availability of eyewash stations where a risk of exposure to chemical agents exists.
- The availability hand washing sinks (to be used when hands are visibly soiled) with single use hand towels, and/or 70-90% alcohol-based hand rub (ABHR) for effective hand hygiene (Note: ABHR is the preferred method to decontaminate hands when not visibly soiled). Moistened towelettes/wipes can be used when visible soil is present and running water is not immediately available, to be followed by the use of ABHR.
- That adequate equipment and supplies are available to provide protection for the worker (i.e. safety engineered needles, needleless IV systems, various sizes of appropriate and readily available PPE).
- The availability of an adequate number of appropriate puncture proof sharps containers and biohazardous material drop-off sites.
- A waste management system with appropriate design and function that meets with the local and legislative requirements.
- The availability of agents for cleaning and disinfection of patient care equipment, vehicles and conveyances.

**Administrative Controls:**

Recommendations:

1) Infection prevention and control policies, procedures and practices must:
   - Be consistent with relevant legislation and standards and based on sound scientific knowledge.
   - Be reviewed and updated on a regular basis.
• Be linked to educational programs and action plans for implementation.
• Include a system for monitoring and improving staff adherence with IPAC program requirements.

2) Immunization programs. As previously noted, immunization programs have been proven to prevent the spread of vaccine preventable diseases.

3) Follow up procedures for an exposed worker(s) should include:
   a. Ensuring that all required reports are completed and forwarded to the appropriate agencies.
   b. Ensuring that there is a referral process for the confirmation of diagnosis and clinical management prophylaxis, treatment (note that for suspected blood borne pathogen exposure, the optimum timeframe for initial physician assessment is within two hours of exposure), and counselling.
   c. Ensuring that a process is developed and followed for post exposure management, work restrictions/return to work, and outbreak management.
   d. Surveillance strategies able to determine rate of exposure/disease transmission in order to monitor for possible outbreaks within the workplace.

4) Maintenance of a clean and safe ‘health care environment’ is essential for infection prevention and control. This should include strategies for Hand Hygiene, Routine Practices/Additional Precautions, Terminal Cleaning and Routine Cleaning.

EMS services should provide appropriate training for all workers to ensure:
• An understanding and application of policies and procedures for Infection Prevention and Control.
• An understanding of the chain of transmission and the risks associated with communicable/infectious diseases.
• An understanding of the concepts and application of Routine Practices (RP) and why and when to use Additional Precautions (AP)
• The proper selection, donning, doffing and disposal of appropriate PPE.
• A robust environmental cleaning and disinfection process for equipment, vehicles, staff and stations.

Personal Protective Equipment (PPE):

Personal Protective Equipment (PPE) that protects a worker against infectious materials (blood, body fluid, secretions, excretions, droplets or airborne infectious agents) includes
gloves, safety eyewear/goggles, gowns or coveralls, hoods, boot covers, procedure masks, respirators, and face shields that may be worn by the worker to provide a barrier against potentially infectious microorganisms. PPE reduces the risk of exposure to the worker however PPE may not be 100% effective (e.g. the use gloves does not negate the requirement for effective hand hygiene).

To be most effective, PPE must be put on (donned) and taken off (doffed) and disposed of in a proper manner as per Public Health Ontario’s *Routine Practices and Additional Precautions in All Health Care Settings – November 2012*. Recommendations from this document include:

1) Processes to purchase and maintain an adequate supply of appropriate sizes of the most appropriate PPE to be used.

2) Ensuring that health care providers receive regular practical training on proper selection and use of PPE including the sequence of donning and doffing as well as proper disposal.

3) The development and maintenance of a respiratory protection program that ensures proper selection, training, fit testing (qualitative or quantitative), seal checking, donning and doffing of respirators that are in accordance with the current Canadian Standards Association (CSA) Standard (CSA Z94.4 Selection, Use and Care of Respirators).

4) The use of PPE appropriate for the task should be worn for cleaning and/or handling of potentially contaminated equipment/devices upon completion of the task for which they were utilized.

**Safe Work Practices (General):**

Safe work practices include actions intended to decrease the risk of worker exposures.

Recommendations:

1) Ensure all staff are educated and adhere to the hand hygiene procedures. This is considered to be one of the most effective measures to prevent health care associated infections.

2) Following Routine Practices for all patient contacts and the use of Additional Precautions when caring for patients with suspected or confirmed infectious disease.

3) Practice cough/sneeze etiquette (cough into elbow, sleeve or disposable tissue), dispose of tissues promptly, and perform hand hygiene.
4) Ensure policies are developed and monitored to prohibit eating, drinking or smoking in areas where direct patient care is/has been performed.

5) Ensure appropriate environmental cleaning procedures/policies are developed, followed and monitored/audited for effective cleaning. These should be followed by disinfection strategies when reprocessing of health care equipment or when part of the patient environment (cleaning is always required prior to disinfection).

6) Ensure policies and procedures are developed and monitored for the clean-up and decontamination of spills of blood/body fluids.

7) Soiled equipment, devices and/or laundry should be handled in a manner that reduces risk of exposure to self and others, including the contamination of other environmental surfaces along the path.

8) Workers are responsible to ensure safe handling and immediate disposal of all sharps.

9) Ensure proper care when handling and disposal of trash and biohazardous waste.

OCCUPATIONAL HEALTH AND SAFETY ACT REQUIREMENTS

Employers are required by the Occupational Health and Safety Act (OHSA) to:

- Take every precaution reasonable in the circumstances for the protection of a worker – OHSA Clause 25 (2)(h)

- Provide information, instruction and supervision to a worker to protect the health and safety of the worker – OHSA Clause 25 (2)(a)

- Acquaint a worker or person in authority over a worker to protect the health or safety of the worker – OHSA Clause 25 (2)(d)

- The equipment, materials and protective devices provided by the employer are maintained in good condition – OHSA Clause 25(1)(b) of the OHSA

Workers are required by the OHSA to:

- Use or wear the equipment, protective devices or clothing that the worker’s employer requires to be used or worn – OHSA Clause 28(1)(b)
REFERENCES AND RESOURCE MATERIALS

Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings, Public Health Agency Canada


Routine Practices and Additional Precautions in All Health Care Settings, November 2012

Ambulance Service Communicable Disease Standards, Version 2.0, August 2015

Best Practices for Hand Hygiene in All Health Care Settings, April 2014

Health Protection and Promotion Act, R.S.O 1990
http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm

Exposure of Emergency Service Workers to Infectious Diseases Protocol, 2008

Needle Safety Regulation (O. Reg. 474/07)
http://www.ontario.ca/laws/regulation/070474

Guide to Infection Prevention in Emergency Medical Services, 2013
Association for Professionals in Infection Control and Epidemiology, Inc. (APIC)

Safer Healthcare Now, Canadian Patient Safety Institute
http://www.saferhealthcarenow.ca/EN/Pages/default.aspx

This document should be shared with the workplace Joint Health and Safety Committee or Health and Safety Representative, incorporated into the workplace occupational health and safety policy and program where appropriate, and posted on the Public Services Health & Safety Association website and the websites of other interested stakeholders.

This Guidance Note has been prepared to assist the workplace parties in understanding their obligations under the Occupational Health and Safety Act (OHSA) and the regulations. It is not intended to replace the OHSA or the regulations and reference should always be made to the official version of the legislation.

It is the responsibility of the workplace parties to ensure compliance with the legislation. This Guidance note does not constitute legal advice. If you require assistance with respect to the interpretation of the legislation and its potential application in specific circumstances, please contact your legal counsel.

While this Guidance Note will also be available to Ministry of Labour inspectors, they will apply and enforce the OHSA and its regulations based on the facts as they may find them in the workplace. This Guidance Note does not affect their enforcement discretion in any way.